ISSN (print) 0093-4666 © 2010. Mycotaxon, Ltd. ISSN (online) 2154-8889

MYCOTAXON

DOI: 10.5248/113.297

Volume 113, pp. 297–303 *July–September 2010*

New species of *Dendryphiopsis* and *Stauriella* from Goa, India

J. Pratibha[1], S. Raghukumar[1] and D.J. Bhat[2]

jalmipratibha@rediffmail.com
s_raghukumar@mykotech.com & bhatdj@rediffmail.com

[1]Myko Tech Pvt. Ltd., Plot no. 12, Mapusa Industrial Estate
Mapusa Goa – 403507, India

[2]Department of Botany, Goa University
Goa – 403 206, India.

Abstract – Two new species of hyphomycetes isolated from decaying plant litter collected from Goa, India, are described and illustrated. *Dendryphiopsis goanensis*, found on decaying bark of an unidentified tree, is characterized by mostly polytretic, integrated, discrete, terminal, and intercalary conidiogenous cells. *Stauriella indica,* collected from decaying spathe of coconut tree, is characterized by sub-hyaline, spinulate, staurosporous conidia with 15–20 cells.

Key words – biodiversity, taxonomy

Introduction

During the course of studies on microfungi from forests of Western Ghats in Goa, two hitherto undescribed hyphomycete species, belonging to the genera *Dendryphiopsis* S. Hughes and *Stauriella* Sivichai & E.B.G. Jones, were isolated from fallen and decaying plant litter. Description and illustration of these fungi form the subject matter of this paper.

Taxonomic descriptions

Dendryphiopsis goanensis Pratibha, Raghuk. & Bhat, **sp. nov.** Figs. 1, 2

MycoBank MB 516558

Ad fungos conidiales, hyphomycetes. Coloniae in substrato naturali dispersae, atrobrunneae vel nigrae; mycelium partim superficiale, partim substrato immersum, ex hyphis laevibus, pallide brunneis, ramosis, septatis, 2–2.5 µm latis, compositum. Coloniae in PDA-cultura, viridi-brunneae, lanatus, reverses nigrae, margin serratus, diam. 2.1 cm aetate 10 dierum. Stroma nullus. Conidiophora macronematica, mononematica, singula vel laxe fasciculata, erecta, recta vel leviter flexuosa, ramosa ad apicem, atrobrunnea, multiseptata, 85–230 × 4–6 µm. Cellulae conidiogenae monotreticae et polytreticae, in conidiophoris incorporatae

et discretae, terminales et intercalares, calyciformes, 7.5–13.5 × 4.5–7 µm. Conidia solitaria, cylindrica, utrinque rotandata, atro brunnea, laevia, 3–5-septata, 20–40 × 5–7.5 µm.

Holotype: On dead and decaying bark of unidentified tree, 13/11/2008, Pratibha J., Mashem, Canacona, Goa, India, Herb. No. HCIO 49724.

Conidial fungi, hyphomycetes. Colonies on natural substrate scattered, dark brown to black. Mycelium partly superficial, partly immersed in the host tissue, composed of smooth, light brown, branched, septate, 2–2.5 µm wide hyphae. Colonies on PDA greenish-brown, wooly, reverse black, margin serrated, attaining a diam. of 2.1 cm in 10 days. Stroma none. Conidiophores macronematous, mononematous, single to loosely fasciculate, erect, straight to slightly flexuous, branched at the apex, dark brown, multiseptate, 85–230 × 4–6 µm. Conidiogenous cells mostly polytretic, sometimes monotretic, integrated, discrete, terminal and intercalary, calyciform, 7.5–13.5 × 4.5–7 µm. Conidia solitary, cylindrical, rounded at both the ends, dark brown, smooth, 3–5-septate, 20–40 × 5–7.5 µm.

Notes: Hughes (1953) established the genus *Dendryphiopsis* with *D. atra* as type species to accommodate *Dendryphion atrum* Corda. Later Hughes (1958) added two species, *Dendryphiopsis arbuscula* and *D. fascicularis*. Subsequently, two new species have been described in *Dendryphiopsis*, *D. biseptata* (Morgan-Jones et al. 1983), and *D. binsarensis* (Subramanian & Srivastava 1994). Thus, the genus until now has accommodated five species, which are characterized by monotretic, discrete, cylindrical conidiogenous cells and pigmented, thick-walled conidia with two or more transverse septa (Table 1). *D. goanensis* differs from earlier described species by having conidiogenous cells that are polytretic, integrated as well as discrete, and terminal as well as intercalary.

Table 1: Synopsis of *Dendryphiopsis* spp.

Species	Conidiophores (µm)	Conidiogenous cells	Conidia (µm)
D. arbuscula	240–580 × 10–13	Monotretic, integrated or discrete, terminal, determinate	3–5-septate, 42–64 × 12–14
D. atra	200–400 × 8–11	Monotretic, integrated or discrete, terminal, determinate or percurrent	2–5-septate, 35–65 × 13–20
D. binsarensis	280–520 × 6.5–8	Monotretic, subconical, truncate at apex	4–5-septate, 36–44 × 8–10
D. biseptata	180 long, 8–10 wide	Monotretic, integrated or discrete, cylindrical or narrowly clavate	2-septate, 28–39 × 19–22
D. fascicularis	200–450 × 9–11	Monotretic, integrated or discrete, cylindrical or narrowly clavate	3–8-septate, 48–90 × 5–10
D. goanensis	85–230 × 4–6	Mostly polytretic, sometimes monotretic, terminal or intercalary, integrated or discrete	3–5-septate, 20–40 × 5–7.5

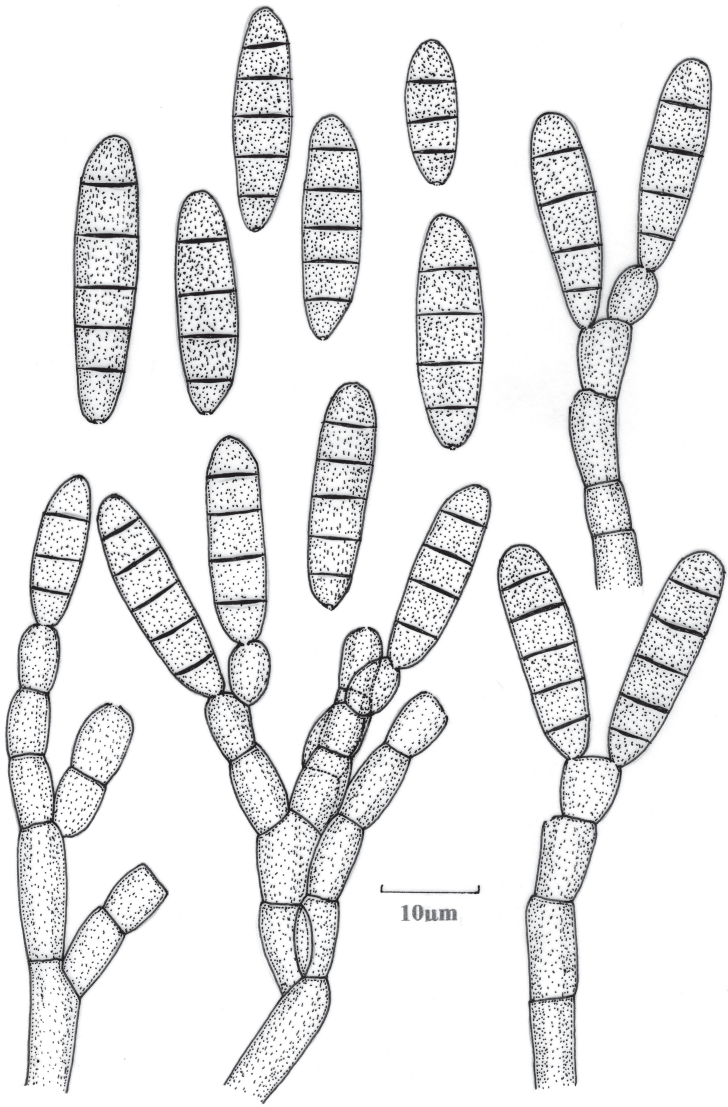

Fig. 1. *Dendryphiopsis goanensis*.
Conidiophores, conidiogenous cells, and conidia

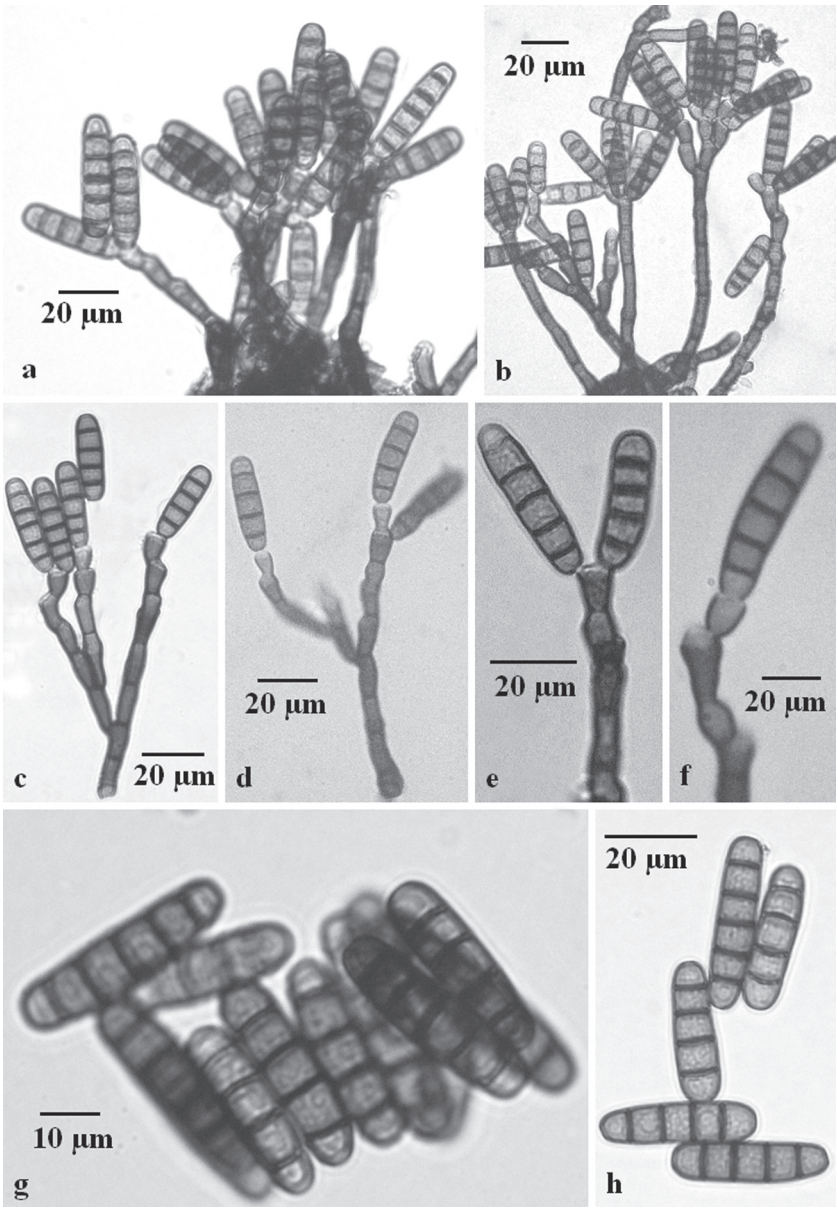

Fig. 2. *Dendryphiopsis goanensis.*
a–f. conidiophores, conidiogenous cells, and conidia; g–h. conidia

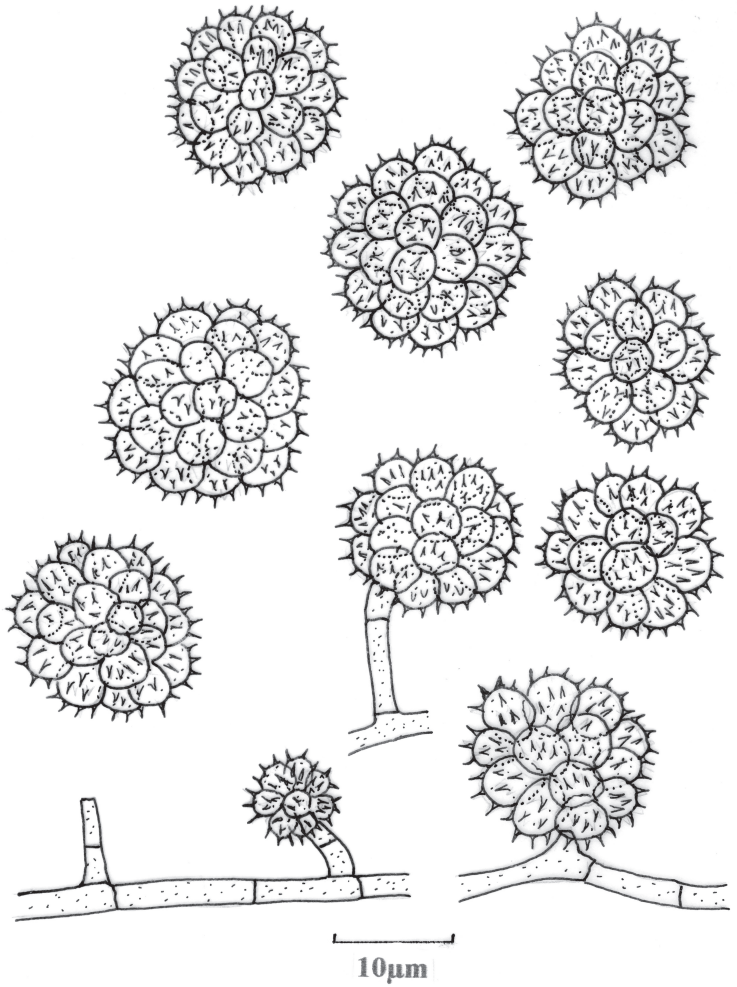

Fig. 3. *Stauriella indica.*
Conidiophores, conidiogenous cells, and conidia

Stauriella indica Pratibha, Raghuk. & Bhat, **sp. nov.** Figs. 3, 4

MycoBank MB 516559

Ad fungos conidiales, hyphomycetes. Coloniae in substrato naturali effusae, candidae; mycelium partim superficiale, partim substrato immersum, ex hyphis laevibus, hyalinis, ramosis, septatis, 2–3 µm latis, compositum. Stroma nullus. Conidiophora semi-macronematica, mononematica, laevia, hyalina. Cellulae conidiogenae monoblasticae, terminales, integratae, hyalinae, usque ad 10 µm longus, lateraliter orientes. Conidia sicca,

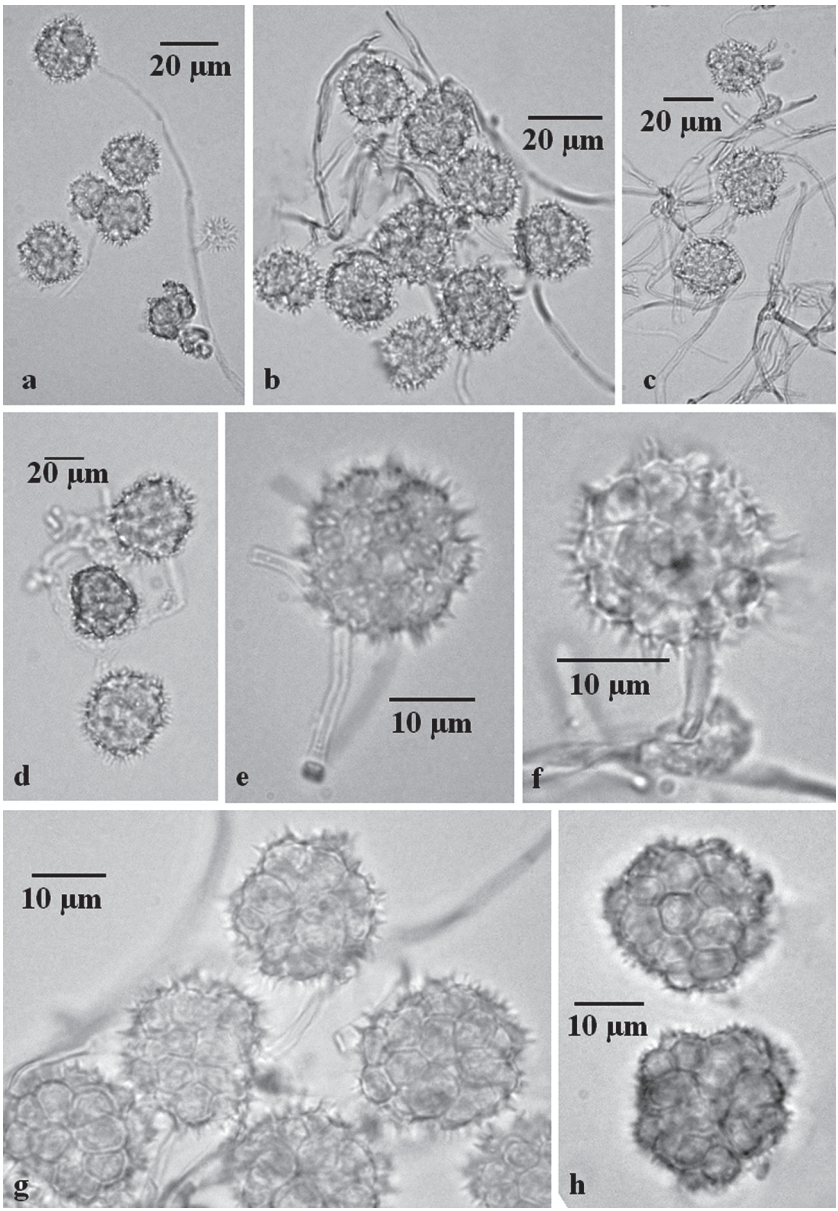

Fig. 4. *Stauriella indica.*
a–g. conidiophores and conidia; h. conidia

solitaria, hyalina vel subhyalina, 17–23.5 µm diam., ex cellula basali et 15–20 cellulis, cum numerosus spines in omnibus cellulis, conformata.

Holotype: On decaying spathe of *Cocos nucifera*, 17/11/2008, Pratibha J., Mashem, Canacona, Goa, India, Herb. No. HCIO 49725.

Conidial fungi, hyphomycetes. Colonies on natural substrate effuse, dull white. Mycelium partly superficial, partly immersed in the host tissue, composed of smooth, hyaline, branched, septate, 2–3 µm wide hyphae. Stroma none. Conidiophores semi-macronematous, mononematous, smooth, hyaline. Conidiogenous cells monoblastic, terminal, integrated, hyaline, up to 10 µm long, arising laterally from hyphae. Conidia dry, solitary, hyaline to sub-hyaline, 17–23.5 µm in diam., comprising 15–20 cells, each with numerous spines on the surface.

Notes: Sivichai & Jones (2004) established the genus *Stauriella* with *S. aquatica* as type species to accommodate a fungus with hyaline, multicelled, spinulate conidia. The genus was so far monotypic. *S. indica* differs from the type species with conidia comprising 15–20 cells, each with numerous spines and measuring 17–23.5 µm in diam. The conidia in *S. aquatica* are 4–6 celled, each with 2–6 spines and 10–12.5 µm diam.

Acknowledgments

DJB thanks the CSIR, MoEF, and UGC, New Delhi, for financial support in the form of research grants. We are indebted to Dr. Eric McKenzie, Landcare Research, New Zealand and Dr. R.F. Castañeda Ruiz, Instituto de Investigaciones Fundamentales en Agricultura Tropical Alejandro de Humboldt (INIFAT), Cuba, for kindly reviewing the manuscript for Mycotaxon.

Literature cited

Hughes SJ. 1953. Conidiophores, conidia and classification. Canadian Journal of Botany 31: 577–659. doi:10.1139/b53-046

Hughes SJ. 1958. Revisiones hyphomycetum aliquot cum appendice de nominibus rejiciendis Canadian Journal of Botany 36: 727–836. doi:10.1139/b58-067

Morgan-Jones G, Sinclair RC, Eicker A. 1983. Notes on hyphomycetes. XLIV. New and rare dematiaceous species from the Transvaal. Mycotaxon 17: 301–316.

Sivichai S, Jones EBG. 2004. *Stauriella* gen. nov. proposed for a new lignicolous basidiomycetous anamorph from freshwater in Thailand. Sydowia 56: 131–136.

Subramanian CV, Srivastava V. 1994. Two new hyphomycetes from Kumaon Himalayas. Proceedings of the Indian National Sciences Academy 60: 167–171.